

AMENDMENTS TO THE CLAIMS

1. through 10. Cancelled)

11. (Currently Amended) The inertial sensor according to claim [[10]] 23 wherein said signal conditioning circuits are integral with said silicon wafer and said sense element linear acceleration sensor.

12. (Previously Presented) The inertial sensor according to claim 11 including a device for combining signals connected to said signal conditioning circuits, said device operable to combine the signals generated by said plurality of signal conditioning circuits into a single output signal.

13. (Currently Amended) The inertial sensor according to claim 10 wherein said signal conditioning circuits are located remotely from said silicon wafer and said sense element linear acceleration sensor.

14. (Currently Amended) An inertial sensor adapted to be attached to a body comprising:

a base member, said base member being formed from a silicon wafer;
a single angular rate inertial sensor element disposed on said base member, said angular rate inertial sensor element operable to sense a change in a motion parameter of said body; and

a plurality of signal conditioning circuits connected to said angular rate inertial sensor element, with a first one of said signal conditioning circuits being calibrated to sense a first range of angular velocity change in said body motion parameter and a second one of said signal conditioning circuits being calibrated to sense a second range of angular velocity change in said body motion parameter, said second range of angular velocity change in said body motion parameter being different from said first range of angular velocity change in said body motion parameter, said signal conditioning circuits

adapted to be connected to at least one control system, said signal conditioning circuits operable to generate an electrical signal that is a function of said change in [[a]] said body motion parameter of said body.

15. (Currently Amended) The inertial sensor according to claim [[14]] 22 wherein said signal conditioning circuits are integral with said silicon wafer and said sense element angular rate sensor.

16. (Previously Presented) The inertial sensor according to claim 15 including a device for combining signals connected to said signal conditioning circuits, said device operable to combine the signals generated by said plurality of signal conditioning circuits into a single output signal.

17. (Currently Amended) The inertial sensor according to claim 14 wherein said signal conditioning circuits are located remotely from said silicon wafer and said sense element angular rate sensor.

18. and 19. (Cancelled)

20. (Previously Presented) The inertial sensor according to claim 12 wherein said signal conditioning circuits are included within an Application Specific Integrated Circuit.

21. (Previously Presented) The inertial sensor according to claim 16 wherein said signal conditioning circuits are included within an Application Specific Integrated Circuit.

22. (New) The inertial sensor according to claim 14 wherein said inertial sensor element is an angular rate sensor and further wherein said body motion parameter is an

angular velocity.

23. (New) The inertial sensor according claim 14 wherein said inertial sensor element is a linear acceleration sensor and further wherein said body motion parameter is a linear velocity.